Claims

1. A data transmission method in a radio telecommunication system, comprising:

setting a maximum value for cell power,

determining a bit rate increase in a cell on the basis of capacity requests,

estimating the increase of the transmission power in a cell caused by the capacity increase,

determining the cell power on the basis of the current cell power and the estimated power increase,

estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

if the cell power of any of the neighbouring cells exceeds the maximum value,

limiting the resource allocation in the cell requesting capacity.

2. A data transmission method in a cellular telecommunication system,

comprising:

setting a maximum value for a cell power,

determining bit rate increases in cells on the basis of capacity requests,

evaluating the costs of the additional loads due to the capacity requests,

estimating the increase of the transmission power in the current cell caused by the capacity growth,

determining the cell power of the current cell on the basis of the current cell power and the estimated power increase,

estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

allocating resources in a growing order of the costs,

if the cell power of any of the neighbouring cells exceeds the maximum value,

limiting the resource allocation in the cell requesting capacity.

3. The method of claim 1, wherein a bit rate increase is determined by the aid of the current power and the bit rate as well as the capacity requests.

4.The method of claim 1, wherein the increase of the transmission power is estimated by the derivative method.

5.The method of claim 1, wherein the increase of the transmission power is estimated by the integral method.

6. The method of claim 1, wherein the increase of the transmission power caused for the neighbouring cells is estimated using the formula $P_s'(j) = P_s(j)(1+F_{tot}')/(1+F_{tot})$.

7. The method of claim 2, wherein the cost of the additional load is evaluated using the formula $'\Delta F(j) = (I+F_{tot})\cdot \Delta P_s(j)/P_s(j)$.

8. A radio telecommunication system.

comprising:

means (508) for determining a bit rate increase in a cell on the basis of capacity requests,

means (508) for estimating the increase of transmission power caused by the capacity increase,

means (508, 518) for determining the cell power on the basis of the current cell power and the estimated power increase,

means (508, 518) for estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

means (508) for limiting the resource allocation in the cell requesting capacity.

9. A radio telecommunication system,

comprising:

means (508) for determining a bit rate increase in a cell on the basis of capacity requests,

means (508) for evaluating the cost of an additional load,

means (508, 518) for allocating resources in a growing order of costs,

means (508) for estimating the increase of transmission power caused by the capacity increase,

means (508, 518) for determining the cell power on the basis of the current cell power and the estimated power increase,

means (508, 518) for estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

means (508) for limiting the resource allocation in the cell requesting capacity.

10. The system of claim 9, the system further comprises means (508, 518) for determining a bit rate increase by the aid of the current power and the bit rate as well as the capacity requests.

11. The system of claim 9, the system further comprises means (508, 518) for estimating the increase of the transmission power by the derivative method.

12. The system of claim 9, the system further comprises means (508, 518) for estimating the increase of the transmission power by the integral method.

13. The system of claim 9, the system further comprises means (508, 518) for estimating the increase of the transmission power caused for the neighbouring cells using the formula $P_s'(j) = P_s(j)(1+F_{tot}')/(1+F_{tot})$.

14. The system of claim 9, the system further comprises means (508, 518) for evaluating the cost of the additional load using the formula $'\Delta F(j) = (I+F_{tot})\cdot \Delta P_s(j)/P_s(j)$.

15. A radio network controller,

comprising:

determining means (508) for determining a bit rate increase in a cell on the basis of capacity requests,

estimating means (508) for estimating the increase of transmission power caused by the capacity increase,

determining means (508, 518) for determining the cell power on the basis of the current cell power and the estimated power increase,

estimating means (508, 518) for estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

limiting means (508) for limiting the resource allocation in the cell requesting capacity.

16. A radio network controller,

comprising:

determining means (508) for determining a bit rate increase in a cell on the basis of capacity requests,

determining means (508) for evaluating the cost of an additional load,

determining means (508, 518) for allocating resources in a growing order of costs,

estimating means (508) for estimating the increase of transmission power caused by the capacity increase,

determining means (508, 518) for determining the cell power on the basis of the current cell power and the estimated power increase,

estimating means (508, 518) for estimating the increase of the transmission power needed in the neighbouring cells caused by the capacity growth in the current cell,

limiting means (508) for limiting the resource allocation in the cell requesting capacity.